SURGERY NSQIP/CICSP ENHANCEMENTS 2006

RELEASE NOTES

SR*3*153

Version 3.0
August 2006

Department of Veterans Affairs
VistA Health Systems Design & Development

Table of Contents

(This page included for two-sided copying.)

Introduction

This project enhances the Surgery Risk Assessment module of the VistA Surgery application. The purpose of the Surgery Risk Assessment module is to facilitate data entry of both preoperative and postoperative patient information pertaining to surgical risk assessments, and to transmit the data to a national database. Although all surgical risk data are transmitted to the national database, the cardiac and non-cardiac programs have separate executive boards, and cardiac surgical cases are assessed and tracked separately from non-cardiac surgical cases.

Clinical nurse reviewers enter both pre-operative and post-operative patient data into the electronic data collection instrument in the VistA Surgery Risk Assessment module for both programs. Various reports and screen displays give the local medical center staff a mechanism for tracking and evaluating surgical risk and operative mortality at the local level, while transmission to the national database allows for the statistical analysis of trends and quality improvement on a national scale.

Within the Surgery Risk Assessment menu, the data entry options for cardiac and non-cardiac risk assessments capture new data elements, as required for National Surgical Quality Improvement Program (NSQIP) and Continuous Improvement in Cardiac Surgery Program (CICSP) statistical analyses. Data entry prompts and online user help are also updated to standardize data collection. Data entry screens are modified to present the new data elements to the user in an arrangement that resembles the existing displays as closely as possible.

Existing reports are modified to include the new data elements.

The NSQIP database and supporting routines are updated to accept the new data transmitted from the medical centers. Messages that are transmitted from local VistA sites to the national database in Denver shall be modified to accept and accommodate the new data elements.

Project Enhancements

The software will provide the following enhancements:

- Add new data elements to data entry options.
- Update description fields within the Data Dictionary (DD) to provide more current data element definitions.
- Update transmissions to the National NSQIP and CICSP databases.
- The Hair Clipping field is updated to reflect additional Hair Removal Techniques.

(This page included for two-sided copying.)

Surgery Enhancements

This section lists the changes made to the VistA Surgery application for the NSQIP/CICSP Enhancement 2006 project.

The updates are described in the following two sections: NSQIP Enhancements and CICSP Enhancements.

NSQIP Enhancements

The NSQIP Enhancements include data dictionary updates, option modifications, and data transmission updates.

Field Updates

The following new fields in the SURGERY file (#130) are created to support NSQIP options:

- PREGNANCY field (#269)
- INTRAOP DISSEMINATED CANCER field (#443)
- PREOPERATIVE ANION GAP field (#444)
- PREOP ANION GAP, DATE field (#444.1)
- HIGHEST ANION GAP field (#445)
- HIGH ANION GAP, DATE field (445.1)

The following field in the SURGERY file (#130) is modified:

- The name of the PREVIOUS PTCA PROCEDURE field (#220) is renamed to PREVIOUS PCI.
- The CURRENT SMOKER field (#202) is updated to only allow non-cardiac values. Previous cardiac values will be moved to a new CURRENT SMOKER (CARDIAC) field (#510).

The following fields in the SURGERY file (#130) are modified to include changes in the field definition or help text.

Field Name and Number	Description of Change
WOUND CLASSIFICATION (#1.09)	Updated data dictionary for NSQIP.
CURRENT SMOKER field (#202)	Updated data dictionary for NSQIP.
CURRENTLY ON DIALYSIS field (#211)	Updated data dictionary for NSQIP.
BLEEDING DISORDERS field (#216)	Updated data dictionary for NSQIP.
PREOPERATIVE SEPSIS field (#218)	Updated data dictionary for NSQIP.
SYSTEMIC SEPSIS field (#250)	Updated data dictionary for NSQIP.
ACUTE RENAL FAILURE field (#254)	Updated data dictionary for NSQIP.
PREVIOUS CARDIAC SURGERY field (#266)	Updated data dictionary for NSQIP.
TUMOR INVOLVING CNS (Y/N) field (#401)	Updated data dictionary for NSQIP.
CARDIAC ARREST REQ CPR field (#411)	Updated data dictionary for NSQIP.

Option Updates

The following options are modified as described.

- When the user accesses the *Preoperative Information (Enter/Edit)* [SROA PREOP DATA] option, the HEIGHT field (#236) and the WEIGHT field (#237) are auto-populated with values from the Vitals package.
    - The search for a Height value begins **one year** prior to the date of operation, and selects the most recent Height entered into the Vitals package.
    - The search for a Weight value begins **30 days** prior to the date of operation, and selects the most recent Weight entered into the Vitals package.
    - If a value is already entered into the field (either Height or Weight), it will not be overwritten.

- The *Preoperative Information (Enter/Edit)* [SROA PREOP DATA] option added the PREGNANCY field (#269) to the NUTRITIONAL/IMMUNE/OTHER section on page 2.

- The *Laboratory Test Results (Enter/Edit)* [SROA LAB] option added these new fields to the list of preoperative lab results on page 1: PREOPERATIVE ANION GAP field (#444) and the PREOP ANION GAP, DATE field (#444.1).

- The *Laboratory Test Results (Enter/Edit)* [SROA LAB] option added these new fields to the list of postoperative lab results on page 2: the HIGHEST ANION GAP field (#445) and the HIGH ANION GAP, DATE field (445.1).

- The *Operation Information (Enter/Edit)* [SROA OPERATION DATA] option added the INTRAOP DISSEMINATED CANCER field (#443) to page 1.

- The *Print a Surgery Risk Assessment* [SROA PRINT ASSESSMENT] option is updated to include the new fields.

- The *Monthly Surgical Case Workload Report* [SROA MONTHLY WORKLOAD REPORT] option provides the ability to run the report for a range of months and shows totals for the selected timeframe.

- The *List of Surgery Risk Assessments* [SROA ASSESSMENT LIST] option is updated to display final CPT codes, including principal and other, on all list selections.

- The *List of Surgery Risk Assessments* [SROA ASSESSMENT LIST] option added a new selection, List of 1-Liner Cases Missing Information.

- The Morbidity & Mortality [SROMM] option added new printing selections:
    - Printing by selected occurrence category, and prints all or one or more categories
    - Printing by attending surgeon, and prints by one, multiple, or all attending surgeons

- The *Print 30 Day Follow-up Letters* [SROA REPRINT LETTERS] option is modified to NOT print when a patient has not been discharged.

Data Transmissions

The data transmissions to the national database will also include the new data elements and/or codes for NSQIP.

(This page included for two-sided copying.)

CICSP Enhancements

The CICSP enhancements include data dictionary updates, option modifications, and data transmission updates.

Field Updates

The following are new fields in the SURGERY file (#130) created to support CICSP options:

- OTHER CARDIAC PROCEDURES (Y/N) field (#502)
- HEMOGLOBIN A1C field (#504)
- HEMOGLOBIN A1C, DATE field (#504.1)
- ENDOVASCULAR REPAIR field (#505)
- CURRENT SMOKER (CARDIAC) field (#510)
- MAZE PROCEDURE field (#512)

Existing cardiac values in the CURRENT SMOKER field (#202) will be moved during the installation process in the new CURRENT SMOKER (CARDIAC) field (#510).

The MAZE PROCEDURE field (#482) is being renamed to *MAZE PROCEDURE field (#482). Data currently in this field will not be overwritten with data from the new MAZE PROCEDURE field (#512), which is utilized by the *Cardiac Procedures Operative Data (Enter/Edit)* [SROA CARDIAC PROCEDURES] option.

The following fields in the SURGERY file (#130) are modified to include changes in the field definition or help text.

Field Name and Number	Description of Change
ON VENTILATOR >48 HOURS field (#285)	Updated data dictionary for CICSP.
GREAT VESSEL REPAIR field (#372)	Updated data dictionary for CICSP.
CARDIAC TRANSPLANT field (#373)	Updated data dictionary for CICSP.
OPERATIVE DEATH field (#384)	Updated data dictionary for CICSP.
COMA > 24 HOURS POSTOP field (#410)	Updated data dictionary for CICSP.
CARDIAC RISK PREOP COMMENTS field (#430)	Updated data dictionary for CICSP.
HDL (CARDIAC) field (#457)	Updated data dictionary for CICSP.
HDL, DATE field (#457.1)	Updated data dictionary for CICSP.
SERUM TRIGLYCERIDE (CARDIAC) field (#458)	Updated data dictionary for CICSP.
SERUM TRIGLYCERIDE, DATE (CAR) field (#458.1)	Updated data dictionary for CICSP.
LDL (CARDIAC) field (#461)	Updated data dictionary for CICSP.
LDL, DATE (CARDIAC) field (#461.1)	Updated data dictionary for CICSP.
TOTAL CHOLESTEROL (CARDIAC) field (#462)	Updated data dictionary for CICSP.
TOTAL CHOLESTEROL, DATE field (#462.1)	Updated data dictionary for CICSP.
DIABETES (CARDIAC) field (#475)	Updated data dictionary for CICSP.
PROCEDURE TYPE field (#476)	Updated data dictionary for CICSP.
AORTIC STENOSIS field (#477)	Updated data dictionary for CICSP.
BRIDGE TO TRANSPLANT/DEVICE field (#481)	Updated data dictionary for CICSP.
OTHER CARDIAC PROCEDURES (Y/N) field (#502)	Updated data dictionary for CICSP.
CPB STATUS field (#8) of the POSTOP OCCURRENCE multiple field (#1.16, sub-file #130.22)	Updated data dictionary for CICSP.

Option Updates

The following options are modified as described.

- When the user accesses the *Clinical Information (Enter/Edit)* [SROA CLINICAL INFORMATION] option, the HEIGHT field (#236) and the WEIGHT field (#237) are auto-populated with values from the Vitals software.
    - The search for a Height value begins **one year** prior to the date of operation, and selects the most recent Height entered into the Vitals package.
    - The search for a Weight value begins **30 days** prior to the date of operation, and selects the most recent Weight entered into the Vitals package.
    - If a value is already entered into the field (either Height or Weight), it will not be overwritten.

- The *Clinical Information (Enter/Edit)* [SROA CLINICAL INFORMATION] option is modified to use the new CURRENT SMOKER (CARDIAC) field (#510) instead of the old CURRENT SMOKER field (#202), which will be utilized by the NSQIP options.

- The *Laboratory Test Results (Enter/Edit)* [SROA LAB-CARDIAC] option is modified with the following changes:
    - The HEMOGLOBIN A1C field (#504) and the HEMOGLOBIN A1C, DATE field (#504.1) are added to the list of preoperative lab results.
    - The option now uses a date range of 1000 days prior to the date of operation when searching for the most recent preoperative lab test result for these fields:

      HDL (CARDIAC) field (#457)
      LDL (CARDIAC) field (#461)
      TOTAL CHOLESTEROL (CARDIAC) field (#462)
      SERUM TRIGLYCERIDE (CARDIAC) field (#458)
      HEMOGLOBIN A1C field (#504)

- The *Enter Cardiac Catheterization & Angiographic Data* [SROA CATHERIZATION] option now allows all fields to be auto-populated with No Study (NS) when NS is entered in the PROCEDURE TYPE field (#476).

- The *Cardiac Procedures Operative Data (Enter/Edit)* [SROA CARDIAC PROCEDURES] option is updated with the following changes:
    - Entering "N" for the VALVE REPAIR field (#370), item #9 on page 1 of the Screen Server, results in "5. None". The existing Ns are converted to "5" upon patch installation.
    - This option now references the new MAZE PROCEDURE field (#512) as item #13 on page 1 of the Screen Server.
    - The GREAT VESSEL REPAIR (Y/N) field (#372) is moved to page 1 of the Screen Server, and is item #20.
    - The ENDOVASCULAR REPAIR field (#505) is added as item #21 on page 1 of the Screen Server.
    - The OTHER CT PROCEDURE field (#484) on page 1 of the Screen Server is now replaced by the OTHER CARDIAC PROCEDURES (Y/N) field (#502). If this field value is "YES", the software prompts the user for the OTHER CARDIAC PROCEDURES-LIST field (#484).

    - The OTHER NON-CT PROCEDURES field (#491) is removed from page 2 of the Screen Server, and a blank line is added before the "Other Operative Data details" header.

- A new occurrence category REPEAT VENTILATOR SUPPORT W/IN 30 DAYS is created in the PERIOPERATIVE OCCURRENCE CATEGORY file (#136.5). This occurrence category is selectable only for cardiac assessed cases.

- The following fields in the *Resource Data* [SROA CARDIAC RESOURCE] option are modified to assume a default of "past date" when no year is specified:
    - ESTIMATE OF MORTALITY, DATE field (#364.1)
    - D/T PATIENT EXTUBATED field (#470)
    - D/T PATIENT DISCH FROM ICU field (#471)

- The *Print a Surgery Risk Assessment* [SROA PRINT ASSESSMENT] option now conforms to the CICSP guidance. This includes new and updated field titles.

Data Transmissions

The data transmissions to the CICSP database now include the new data elements. Updated cardiac records can also be retransmitted, if necessary.

Hair Removal Documentation Enhancements

SR*3*153 also includes changes for documenting the method of hair removal prior to surgery.

Field Updates

The following are new fields in the SURGERY file (#130) created to support general Surgery options:

- HAIR REMOVAL METHOD field (#506)
- HAIR REMOVAL COMMENTS field (#508)

The following are the choices for the hair removal method:

- C CLIPPER
- D DEPILATORY
- N NO HAIR REMOVED
- P PATIENT REMOVED OWN HAIR
- S SHAVING
- U NOT DOCUMENTED
- O OTHER

When either SHAVING or OTHER is selected a warning displays regarding the selection. The user is then prompted to enter comments documenting why SHAVING or OTHER was selected. While entry of the HAIR REMOVAL COMMENTS field (#508) is not mandatory at the prompt, comments **MUST** be entered before the Nurse Intraoperative Report can be electronically signed.

The following is an updated field:

- The PREOP HAIR CLIPPING BY field (#.12) is renamed HAIR REMOVAL BY field (#.12).

Option Updates

The following options are modified as described.

- These options are updated to allow editing of all hair removal fields:
  - *Operation Startup* [SROMEN-START] option
  - *Operation Short Screen* [SROMEN-OUT] option
  - *Nurse Intraoperative Report* [SRONRPT] option

- The Quarterly Report — Surgical Service [SRO QUARTERLY REPORT] option is updated to display the count of hair removal methods used, as well as a total percentage for each method.

Input Templates

The following SURGERY file (#130) input templates are modified by this patch:

- SRO-NOCOMP
- SROMEN-OUT
- SROMEN-START
- SRONRPT

Appendix A:
Updated Definitions for Non-Cardiac Fields

The following field definitions are updated in patch SR*3*153.

Field	Updated Description
Current Smoker	If the patient has smoked cigarettes in the year prior to admission for surgery, enter YES. Do not include patients who smoke cigars or pipes or use chewing tobacco.
Currently on Dialysis	Acute or chronic renal failure requiring periodic peritoneal dialysis, hemodialysis, hemofiltration, hemodiafiltration, or ultrafiltration within 2 weeks prior to surgery.
Bleeding Disorders	Any condition that places the patient at risk for excessive bleeding requiring hospitalization due to a deficiency of blood clotting elements (e.g., vitamin K deficiency, hemophilias, von Willebrands, thrombocytopenia, chronic anticoagulation therapy that has not been discontinued). Do not include the patient on chronic aspirin therapy. The time frame is 'up to and including' the day/hour written. If not documented, then assume it was not discontinued and answer 'yes' for bleeding disorder. Following is a list of medications that impact the patient's risk for bleeding. Please utilize the associated time frames for discontinuation of medication to determine your answer to this variable. **Medication** — **Time Frame** Coumadin (Warfarin) — 4 days Heparin (IV only) — 4 hours Plavix (Clopidogrel) — 7 days Lovenox (Enoxaparin) — 12 hours Reopro (Abciximab) — 9 days Integrellin (Eptifibatide) — 2 days Agrylin (Anagrelide) — 3 days Fragmin (Dalteparin) — 24 hours Aggrastat (Tirofiban) — 4 hours Ticlopidine HCl (Ticlid) — 10 days
Previous PCI	The patient has undergone a percutaneous coronary intervention (PCI) at any time or a PCI was attempted at any time. This includes either balloon dilatation or stent placement. This does not include valvuloplasty procedures.

Field	Updated Description
Preoperative Sepsis	Sepsis is a vast clinical entity that takes a variety of forms. The spectrum of disorders spans from relatively mild physiologic abnormalities to septic shock. Please report the most significant level using the criteria below: 1. SIRS (Systemic Inflammatory Response Syndrome): SIRS is a widespread inflammatory response to a variety of severe clinical insults. This syndrome is clinically recognized by the presence of two or more of the following: - Temp >38 degrees C or <36 degrees C - HR >90 bpm - RR >20 breaths/min or PaCO2 <32 mmHg(<4.3 kPa) - WBC >12,000 cell/mm3, <4000 cells/mm3, or >10% immature (band) forms - Anion gap acidosis (this is defined by [sodium + potassium] - [chloride + CO2]. If this number is greater than 12, then an anion gap acidosis is present. 2. Sepsis: Sepsis is the systemic response to infection. Report this variable if the patient has clinical signs and symptoms of SIRS listed above and one of the following: - positive blood culture - clinical documentation of purulence or positive culture from any site thought to be causative 3. Severe Sepsis/Septic Shock: Sepsis is considered severe when it is associated with organ and/or circulatory dysfunction. Report this variable if the patient has the clinical signs and symptoms of SIRS or sepsis AND documented organ and/or circulatory dysfunction. Examples of organ dysfunction include: oliguria, acute alteration in mental status, acute respiratory distress. Examples of circulatory dysfunction include: hypotension, requirement of inotropic or vasopressor agents.
Systemic Sepsis	The body's response to insult can be documented as one of two levels with the successive level building on the previous level. You should only document the highest level identified using the criteria below. 1. Sepsis: Sepsis is the systemic response to infection. Report this variable if the patient has clinical signs and symptoms of SIRS. SIRS is a widespread inflammatory response to a variety of severe clinical insults. This syndrome is clinically recognized by the presence of **two** or more of the following: - Temp >38 degrees C or <36 degrees C - HR >90 bpm - RR >20 breaths/min or PaCO2 <32 mmHg(<4.3 kPa) - WBC >12,000 cell/mm3, <4000 cells/mm3, or >10% immature (band) forms Anion gap acidosis (this is defined by [sodium + potassium] – [chloride + CO2]. If this number is greater than 12, then an anion gap acidosis is present. and one of the following: - positive blood culture - clinical documentation of purulence at any site thought to be causative *(definition continued on next page)*

Field	Updated Description
Systemic Sepsis (continued)	2. Severe Sepsis/Septic Shock: Sepsis is considered severe when it is associated with organ and/or circulatory dysfunction. Report this variable if the patient has the clinical signs and symptoms of SIRS or sepsis AND documented organ and/or circulatory dysfunction. Examples of organ dysfunction include: oliguria, acute alteration in mental status, acute respiratory distress. Examples of circulatory dysfunction include: hypotension, requirement of inotropic or vasopressor agents. *For the patient that had sepsis preoperatively, worsening of any of the above signs postoperatively would be reported as a postoperative sepsis. Examples: A patient comes into the emergency room with signs of sepsis – WBC 31, Temperature 104. CT shows an abdominal abscess. He is given antibiotics and is then taken emergently to the OR to drain the abscess. He receives antibiotics intraoperatively. Postoperatively his WBC and Temperature are trending down. POD#1 WBC 24, Temp 102 POD#2 WBC 14, Temp 100 POD#3 WBC 10, Temp 99 This patient does not have postoperative sepsis as his WBC and Temperature are improving each postoperative day. Patient comes into the ER with s/s of sepsis – WBC 31, Temp 104. CT shows an abdominal abscess. He is given antibiotics and is taken emergently to the OR to drain the abscess. He receives antibiotics intraoperatively. Postoperatively his WBC and Temp are as follows: POD#1 WBC 28, Temp 103 POD#2 WBC 24, Temp 102.6 POD#3 WBC 22, Temp 102 POD#4 WBC 21, Temp 101.6 POD#5 WBC 30, Temp 104 This patient does have postoperative sepsis because on postoperative day #5, his WBC and Temperature increase. The patient is having worsening of the defined signs of sepsis.
Acute Renal Failure	In a patient who did not require dialysis preoperatively, worsening of renal dysfunction (increase in serum creatinine to >2.0 and two times most recent preoperative creatinine level) and postoperatively creatinine level) and postoperatively requiring hemodialysis, peritoneal dialysis, hemofiltration, hemodiafiltration or ultrafiltration. TIP: If the patient refuses dialysis, the answer is Yes to this variable because he/she did not require dialysis.
Previous Cardiac Surgery	Any major cardiac surgical procedure (performed either as an 'off-pump' repair or utilizing cardiopulmonary bypass). This includes coronary artery bypass graft surgery, valve replacement or repair, repair of atrial or ventricular septal defects, great thoracic vessel repair, cardiac transplant, left ventricular aneurysmectomy, insertion of left ventricular assist devices, etc. Do not include pacemaker insertions or automatic implantable cardioverter-defibrillator (AICD) insertions.

Field	Updated Description
Tumor Involving CNS (Y/N)	Space-occupying tumor of the brain and spinal cord, which may be benign (e.g., meningiomas, ependymoma, oligodendroglioma) or primary (e.g. astrocytoma, glioma, glioblastoma multiform) or secondary malignancies (e.g., metastatic lung, breast, malignant melanoma). Other tumors that may involve the CNS include lymphomas and sarcomas. Answer "YES" even if the tumor was not treated. A patient with metastatic cancer with boney mets to spine is a CNS tumor.
Cardiac Arrest Requiring CPR	The absence of cardiac rhythm or presence of chaotic cardiac rhythm that results in loss of consciousness requiring the initiation of any component of basic and/or advanced cardiac life support. Patients with AICDs that fire but the patient does not lose consciousness should be excluded.

Appendix B:
Updated Definitions for Cardiac Fields

The following field definitions are updated in patch SR*3*153.

Field	Updated Description
On ventilator >48 hours	Indicate if the total duration of ventilator-assisted respiration during postoperative hospitalization within 30 days was greater than or equal to 48 hours.
Great vessel repair	Indicate if any surgical procedure (not listed above) was performed alone or in conjunction with the index procedure, either with or without placing the patient on cardiopulmonary bypass (YES/NO).
Cardiac transplant	Indicate if an orthotopic or heterotopic transplant was performed at this procedure either with or without placing the patient on cardiopulmonary bypass. (YES/NO) Heart-lung transplant should be listed under "Other cardiac procedures."
Operative death	Indicate if the patient died within the 30 days after surgery in or out of the hospital regardless of cause; or within the index hospitalization regardless of cause; or patient died greater than 30 days as a direct result of a perioperative occurrence of the surgery (e.g., mediastinitis). ("Discharge" can be noted when the patient leaves the Acute Care arena.)
Coma > 24 hours postop	Coma > 24 hr: Indicate if postoperatively within 30 days of surgery there was a significantly decreased level of consciousness (exclude transient disorientation or psychosis) for greater than or equal to 24 hours as evidenced by lack of response to deep, painful stimuli.
Cardiac risk preop comments	Indicate in the comment field any preoperative patient risk factors (not previously entered above) that may contribute to this patient's risk of operative mortality. (The maximum length of this field is 130 characters.)
HDL (cardiac)	Indicate the HDL result (mg/dl) preoperatively evaluated closest to surgery. Entering "NS" for "No Study" is allowed.
HDL, date	Indicate the date that the preoperative HDL value was assessed. Enter "NS" for No Study if the HDL test was not performed.
Serum triglyceride (cardiac)	Indicate the Serum Triglyceride result (mg/dl) preoperatively evaluated closest to surgery. Entering "NS" for "No Study" is allowed.
Serum triglyceride, date (car)	Indicate the date that the preoperative Sodium Triglyceride, Date value was assessed. Enter "NS" for No Study if the Serum Triglyceride test was not performed.
LDL (cardiac)	Indicate the LDL result (mg/dl) preoperatively evaluated closest to surgery. Entering "NS" for "No Study" is allowed.
LDL, date (cardiac)	Indicate the date that the preoperative LDL value was assessed. Enter "NS" for No Study if the LDL test was not performed.
Total cholesterol (cardiac)	Indicate the Total Cholesterol result (mg/dl) preoperatively evaluated closest to surgery. Entering "NS" for "No Study" is allowed.

Field	Updated Description
Total cholesterol, date	Indicate the date that the preoperative Total Cholesterol, Date value was assessed. Enter "NS" for No Study if the Cholesterol test was not performed.
Diabetes (cardiac)	Indicate if the patient has diabetes treated with diet, oral, and/or insulin therapy. Diabetes is defined as a metabolic disorder of the pancreas whereby the individual requires daily dosages of exogenous parenteral insulin or an oral hypoglycemic agent to prevent a hyperglycemic/metabolic acidosis. If the patient is on both Oral and Insulin therapy, indicate Insulin therapy. Indicate the one most appropriate response. No - no diagnosis of diabetes. Diet - a diagnosis of diabetes that is controlled by diet alone in the two weeks preceding surgery (the only prescribed treatment has been diabetic relief). Oral - a diagnosis of diabetes requiring therapy with an oral hypoglycemic agent in the two weeks preceding surgery. Insulin - a diagnosis of diabetes requiring daily insulin therapy in the two weeks preceding surgery.
Procedure type	Enter “YES” to allow the software to automatically enter ‘NS’ on all fields within this option. Enter ”NO” to only enter ‘NS’ in the Procedure Type field.
Aortic stenosis	Indicate the severity of any aortic stenosis documented. This question should be answered using either the left ventricular angiogram (hemodynamic cath data) or the cardiac ultrasound examination. Numbers may be converted to describe the severity of the aortic stenosis on the cardiac cath report to the adjectives describing the severity: 1+ = mild, 2 or 3+ = moderate, and 4+ = severe. Both transvalvular gradient and estimated valve orifice area are used to assess the severity of obstruction (stenosis) of a valve. The transvalvular pressure gradient is obtained by converting the velocity of blood flow across the valve measured by the Doppler principle to pressure drop using the Bernoulli equation. The pressure drop, which is dependent on flow, can be converted to estimated valve orifice area if flow is known. If the echo report uses an adjective to describe the severity of stenosis, indicate the corresponding adjective. Use the following to convert mean (not peak) transvalvular gradients, orifice areas, or both, to the descriptive categories. Indicate the one most appropriate response: None/Trivial - The mean pressure gradient is < 5 mm Hg, and/or orifice area is > 2.5 cm2, and/or the aortic valve leaflets or aortic flow velocity is stated to be normal (< 1.0 M/sec). Mild - The mean pressure gradient is 5 - 20 mm Hg and/or the orifice area is 1.7 - 2.5 cm2 Moderate - The mean pressure gradient is >20 - 50 mm Hg and/or the valve orifice area is 1.0 -1.5 cm2 Severe - The mean pressure gradient is > 50 mm Hg and/or the valve orifice area is < 1.0 cm2 No Study - If no study was performed, entering "NS" for "No Study/Unknown" is also allowed. *(description continued on next page)*

Field	Updated Description
Aortic stenosis (continued)	Choose from: 0 NONE/TRIVIAL 1 MILD 2 MODERATE 3 SEVERE NS NO STUDY
Bridge to transplant/device	Indicate if patient received a mechanical support device (excluding IABP) as a bridge to cardiac transplant during the same admission as the transplant procedure; or patient received the device as destination therapy (does not intend to have a cardiac transplant), either with or without placing the patient on cardiopulmonary bypass.
Other cardiac procedures (specify)	Specify if any cardiac surgical procedure (not listed above) was performed alone or in conjunction with the index procedure, either with or without placing the patient on cardiopulmonary bypass.
Other cardiac procedures (Y/N)	Indicate if any surgical procedure (not listed above) was performed alone or in conjunction with the index procedure, either with or without placing the patient on cardiopulmonary bypass (YES/NO).
CPB Status	Indicate the CPB status if the patient underwent a repeat operation on the heart after the patient had left the operating room from the initial operation and within current hospitalization or within 30 days of the initial operation. Use the same criteria to define a cardiac surgery as listed on page 1 of the CICSP Instructions/Definitions. (Do NOT submit a separate second form for this second cardiac procedure if it occurs within 30 days post-operatively.) Indicate the one appropriate response: None - no repeat cardiac surgical procedure post-operatively during index hospitalization or within 30 days of initial operation. On-bypass - patient underwent a repeat cardiac surgical procedure utilizing CPB. Off-bypass - patient underwent a repeat cardiac surgical procedure not utilizing CPB.
Current Smoker (Cardiac)	Indicate the patient's smoking status information from the patient, or the chart, that best describes the patient's use of tobacco in any form (pipe, cigar, cigarette, tobacco chew). If more than one representation is found, please record according to the most conservative (most recent) quit date: 1 = never a smoker 2 = smoking within two weeks prior to surgery 3 = smoking within 2 weeks to 3 months prior to surgery 4 = remote smoker (more than 3 months prior to surgery)

(This page included for two-sided copying.)

Appendix C:
Updated Laboratory Tests

The following laboratory tests, accessed using the *Laboratory Test Results (Enter/Edit)* [SROA LAB-CARDIAC] option, are updated in patch SR*3*153.

Test Result	Change in functionality
HDL	The date range for collecting preoperative HDL was changed from 90 days to 1000 days prior to the date of operation for cardiac assessments.
LDL	The date range for collecting preoperative LDL was changed from 90 days to 1000 days prior to the date of operation for cardiac assessments.
Total Cholesterol	The date range for collecting preoperative Total Cholesterol was changed from 90 days to 1000 days prior to the date of operation for cardiac assessments.
Serum Triglyceride	The date range for collecting preoperative Serum Triglyceride was changed from 90 days to 1000 days prior to the date of operation for cardiac assessments.
Hemoglobin A1c	A new lab test, Hemoglobin A1c, was added for cardiac assessments.

Upon completion of the installation of patch SR*3*153, use the edit option of VA FileMan to enter the appropriate data name(s) for ANION GAP and HEMOGLOBIN A1C in the LABORATORY DATA NAME field (#1) of the RISK MODEL LAB TEST file (#139.2). If an appropriate data name does not exist, leave blank.

The following laboratory tests, accessed using the *Laboratory Test Results (Enter/Edit)* [SROA LAB] option, are updated in patch SR*3*153.

Test Result	Change in functionality
Anion Gap	A new lab test, Anion Gap, was added for non-cardiac assessments. Both preoperative and postoperative values are collected.

(This page included for two-sided copying.)